

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2019 / 2020

**TSA 2131 – SYSTEMS ANALYSIS AND DESIGN**

(All sections / Groups)

22 October 2019

9.00 a.m. – 11.00 a.m.

(2 Hours)

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**INSTRUCTIONS TO STUDENT**

1. This question paper consists of 5 pages including the cover page.
2. Attempt **ALL** questions. The distribution of the marks for each question is given.
3. Please print all your answers in the Answer Booklet provided.
4. For Question 4(a), please print your answers in the appendix A provided and submit together with the answer booklet.

**QUESTION 1**

- a) Briefly describe FIVE (5) major phases of System Development Life Cycle.  
(5 marks)
- b) What is the purpose of value chain analysis?  
(2 marks)
- c) What is Rapid Application Development? How does it compare to the traditional system development methodology?  
(3 marks)
- d) List TWO (2) organizational factors that can influence the success of implementation phase?  
(2 marks)

**QUESTION 2**

- a) Why is it important to have bottom up planning information system development projects?  
(2 marks)
- b) Compare and contrast between Baseline Project Plan and Project Scope Statement in term of the deliverables.  
(4 marks)
- c) Compare and contrast FOUR (4) approaches to reuse.  
(4 Marks)
- d) The user would like to request for the following maintenance activity:

**Add in new function of 'sales report by region'**

Briefly relate the type of system maintenance based on the user's request as above.  
(2 marks)

**Continued...**

**QUESTION 3**

- a) A project has been defined to contain the following list of activities along with their required times for completion.

Activity	Time	Immediate Predecessors	EF	LF	Slack	Critical Path?
A	3	-				
B	5	A				
C	7	A				
D	10	B,C				
E	5	D				
F	4	E				

Note: please copy the table above as part of your answer.

- (i) Complete the table above and construct a network diagram based on the activities. For each activity, identify its early finish time, late finish time, and slack. (4 marks)
- (ii) Identify the critical path in the diagram. (1 mark)
- b) Draw a use case diagram to show how customer can place online and phone order to an order clerk, showing the relationships between different use cases. (3 marks)
- c) Create a context diagram for a workshop for vehicle repairing system. The following statements indicate the process of a vehicle being sent to a workshop for repairs:
- A mechanic performs the inspection on vehicle, identify the part for the repair and record the total cost of all parts used on a repair order.
  - Information on labor, parts and repair outcome is used for billing by the Accounting Department
  - Parts monitoring by the inventory system and a repair report will be submitted to the workshop manager.

(4 marks)

**Continued...**

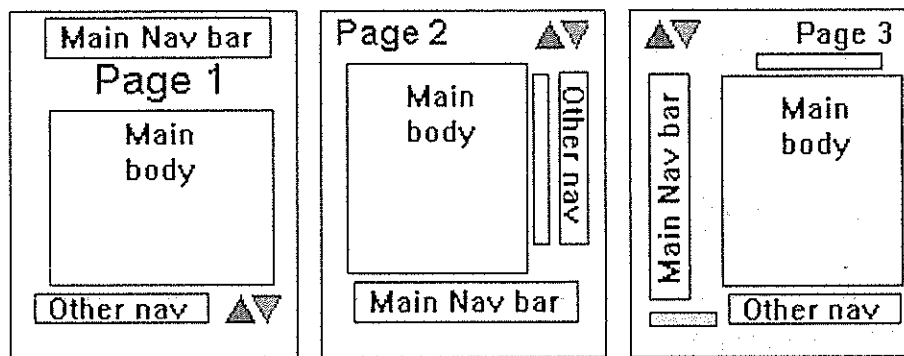
**QUESTION 4**

- a) Assume a proposed information system has a useful life of 5 years, with monetary benefits at RM 60,000 per year, a one-time cost of RM37,500 and a recurring cost of RM 32,000 per year. If the discount rate is 14%, calculate the following:
- (i) Net Present Value (NPV) of these costs and benefits of an information system based on the sheet given in the appendix A. (6 marks)
  - (ii) Find the point of breakeven. (2 marks)

*Note: Please round to the nearest 2 decimal places for discount rate and the nearest integer value for Present Value (PV).*

- b) In a project with useful life of 3 years, the initial investment for the project is RM35,000. The present values for Year 1, 2 and 3 are RM25,455, RM10,917 and RM9,813 respectively. How much is the Net Present Value (NPV)? (1 mark)
- c) Assume that at Pine Valley Furniture each product (described by Product No., Description, and Cost) is comprised of at least three components (described by Component No., Description, and Unit of Measure) and components are used to make one or many products (i.e., must be used in at least one product). In addition, assume that components are used to make other components and that raw materials are also considered to be components. In both cases of components being used to make other components, we need to keep track of how many sub-components go into making something else. Draw an E-R diagram for this situation and place minimum and maximum cardinalities on the diagram. (3 marks)

**Continued...**

**QUESTION 5**

(source: <https://www.mockplus.com/blog/post/bad-ui-design-examples>)

- a) Given the diagram above, identify ONE (1) common mistake of the user interface design.  
(3 marks)
- b) Briefly describe how a cookie crumb help to prevent users from getting lost?  
(2 marks)
- c) Explain THREE (3) situations that highlighting is a valuable technique for conveying special information  
(3 marks)
- d) How does an organization control maintenance requests?  
(4 marks)

**End of Paper**